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ABSTRACT

This report examines the perceptions of rural Washington community leaders concerning community information needs and the role of communication technology. In-depth interviews were conducted with 34 leaders in 5 selected rural eastern Washington communities that had access to telecommunications education and information systems, and with 15 eastern Washington educators with expertise in rural development and telecommunications systems. Community leaders' core concern was community survival. Successful use of telecommunications in rural communities may depend on developing a "rural telecommunications network" (RURALNET) that meets the needs of users, providers, and the network itself. Factors critical to the success of RURALNET include: (1) respect for traditional community and family values; (2) capacity for local and institutional cooperation; (3) local participation in planning; (4) designation of a "natural gathering place" in the community; (5) human capacity building to allow rural citizens access to and planning of RURALNET; (6) collaboration among providers of telecommunications programs and services; and (7) coordination between providers and citizens. In general, there was a positive reception to expansion of telecommunications programs and services in rural areas and optimism that it can help solve some rural community problems. (SV)

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SUMMARY REPORT

COMMUNICATION TECHNOLOGY FOR RURAL COMMUNITIES, A QUALITATIVE STUDY OF RURAL COMMUNITIES, NORTHEASTERN WASHINGTON STATE

by Lucy Greer Burton
Masters Thesis, Department of Adult and Youth Education
Washington State University
August 1989

Abstract Review

Communication technology can be applied to overcome the restrictions of distance and size, creating opportunity for rural citizens to access needed education and information. This study gathered the perceptions of citizens in selected rural communities of the Northeastern counties of Washington State regarding information needs, communication technology, and receptivity to further development. Thirty four interviews were conducted in the Spring of 1989 with community leaders in five sites. Informants identified current technologies, available programs, and visions for further development.

Salient aspects of the findings included the key role of coordination in each rural site, leadership structures in the rural community, local participation in planning to foster acceptance/usefulness of programs, designation of a natural gathering place in the community, and collaboration among and between producers of telecommunications programs/services and the citizens in rural sites. In general, there is a positive reception to expansion of telecommunications programs/services in rural areas. Citizens would like to build the human capacity to coordinate programs within the

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community although training and assistance is needed from outside the community.

The social setting under observation in this study can be described as a rural telecommunications network, called RURALNET. The creation and support of the network, RURALNET, provides greater access between users and producers of distance education and services. Rural citizens need to gain membership in the network by learning how to use the technology. Access needs include computer training, library research capacities, career guidance, college degree programs, vocational education, life skills training, adult basic education, access to medical training, and assistance to small business development.

Methods and Procedures

A qualitative research methodology from the naturalistic point of view was used and included intensive interviews, participant observation, and nonquantitative data analysis techniques. Five sites which are currently enrolled in the ESD 101 Satellite Technology Education Program were selected based on rural conditions such as lack of services, remoteness, geographic dispersion in the region, and variety of economic bases. Personal interviews with community leaders were conducted to gather the concerns in the community regarding education and information needs, perceptions regarding telecommunications, and visions for expansion of communication technology to rural sites. First evolved a description of the community, the people, and the problem situations they face, then a description of the familiarity with technology in the community, and

finally a connection between information problems in the community and further telecommunications programs that they thought useful.

The data collected was analyzed using the constant comparative method of Glaser and Strauss, picturing the data supporting various categories or patterns. Much of the data related to technology and the human capacity to use the technology in the rural community. In addition, providers and users of the technology became major social roles within the social unit of the social world under observation in the study, the rural telecommunications network environment.

Prior to data collection in rural areas, interviews were held with fifteen resource persons from educational institutions selected for knowledge of rural communities and/or telecommunications systems. In addition, the researcher was participant observer in four regional planning meetings for rural telecommunications programs.

All interviews were tape recorded and open notes were taken. Peer debriefings served to assist the data gathering and analysis. Field documents such as research reports, newspaper articles, regional and area needs assessments, and demographic data supplemented primary data of interviews and observations.

Findings

Literature Review. Communications systems are critical to the nations economy. Rural areas may not get full access to communications systems, furthering their decline and the polarization between rural and urban populations. A community's access to education and information appears critical to economic development. Technology has the ability to revolutionize the way business is

conducted, making operations much more efficient. Numerous models in other regions for the use of multiple technologies developed in collaboration among institutions provide examples of educational outreach possibilities. With the technology in hand, learning to build human capacity to utilize the technology becomes the challenge. Of primary importance is the need to provide resources at the user's end for designing good learning environments and student support systems. And, finally technology can not replace the need for personal contact in communication.

Common Rural Concerns. For rural citizens survival means responding to many social, economic, and demographic changes. The core concern of rural community survival is driven by related issue areas and mediated by rural citizen leadership. Nine of the major concerns are the following: (1) stop the loss of human capital, (2) maintain the population base, (3) maintain quality education and local community schools, (4) maintain economic security, (5) maintain community cohesion and values, (6) adapt to a global economy, (7) maintain medical services, (8) respond to needs of at-risk populations, and (9) maintain community independence and individual autonomy.

Community Awareness of Technology. In all sites there is a positive reception to communication technology and eagerness for further development. Greater awareness of technology and coordination capacity are needed to make use of the technology. Although considerable awareness is present in rural schools, larger businesses, and agencies about computer technology and telecommunications, there is a lack of awareness among the general rural population about the technology. Informants have said that most

people are not aware of the possibilities, have little or no experience with the technology, and are unfamiliar with the systems that are available or are being used by various institutes. Among those who are aware there is a very positive reception to current programs and eagerness for further expansion of telecommunication programs and technology training. Telephone service is a barrier to some technology uses. Rural communities need assistance working through the details of telephone service to find the most beneficial systems and uses. Computer training and library support are high priority needs in rural areas for information access.

Telecommunications to Assist Rural Communities. Community leaders have identified the following ways telecommunications might help in dealing with rural community needs:

General Education

(1) Better quality K-12 education with the addition of distance courses for advanced college preparation with languages, math, and science; more electives, arts programs, and K-12 enrichment; exposure to cultural diversity and teacher professional development. (More vocational education and life skills for youth and adults was often mentioned although informants suggested skills centers and alternatives other than telecommunications).

Social Development

(2) Assistance with at-risk populations of children, youth, and adults with life skills training such as self esteem, nutrition, health awareness, parent effectiveness, drug and alcohol rehabilitation, adult basic education and GED programs.

(3) Educational programs in support of families, to assist coping with changing family roles as more women continue to enter the work force.

Medical/Health Education

(4) Assistance to help rural communities obtain up-to-date medical services by providing access to distance training for medical staff in remote areas; the non-physician staff is the group most in need of training opportunity.

Economic Development

(5) Opportunity for adult continuing education both credit and non-credit courses in business and education. Priority is placed on computer training of all kinds. The response is aimed at professional development/expansion of skills for those employed and career development through degree programs for those who are either not employed or who want to make a change.

(6) Assistance with small businesses by the Small Business Development Centers to strengthen existing business or help start new business.

(7) Access to state of the art computer information systems and equipment and more computer training for efficient and competitive capacities to compete in the regional, national, and/or international markets.

(8) Programs on how to develop recreation and tourism as an economic development strategy.

Information Services

(9) A stronger library system and library service improvements are needed to give access to information through major libraries and

national databases, with provisions for immediate document delivery. Library support to distance courses is critical to the development of distance education.

(10) Assistance to rural medical services by providing access to medical databases and access to metropolitan hospital expertise for rural hospital admissions and/or diagnosis.

(11) Immediate access to technical information via computer data transmissions may be critical to support small business or to develop entrepreneurial skills for niche marketing. It may not be enough for small business to operate only in the small town. Businesses may have to compete with metropolitan businesses on a regional, national, or global level to remain viable.

(12) General information services via telecommunications for remote areas so the citizens can find out about career opportunities, legal services, medical services, social support services, government services without having to drive long distances.

Building Human Capacity in Rural Communities. Communication technology and human capacity must be developed both in rural communities and within institutions. In the rural community, the role of the local coordinator appears critical to a functional telecommunications system for building awareness, organizing rural input in planning, organizing leadership structures, collaborating with institutional faculty and other producers, establishing the supportive learning environment, publicizing and marketing programs, coordinating schedules, and encouraging and/ or supporting users. Training and ongoing support is needed to develop this coordination

capacity. Most of the communities envision building this capacity with persons from their community. Rural citizens want to build the capacity from within but they need help with the change process to gain acceptance of new technologies and capacity to utilize them. They also highly value local participation in planning to ensure usefulness and acceptance of programs. A natural gathering place in the small remote communities is usually the public school. In towns where the STEP satellite system is established, expansion of adult programs is a natural progression at the school. The communities value traditional roles of family and community. They favor adult and youth programs planned to operate in concert or in support of each other. Examples of programs that could be planned to address both youth and adult needs are literacy and life skills; vocational and technical education; support to at-risk families; entrepreneurial skills and business incubation; agriculture and farm management; changing family roles; and development of tourism. Programs such as these can be designed to serve both youth and adults while responding to community situations. Common responses in rural communities are summarized in Diagram 4, attached.

Conclusions. While the study sought to collect a range of concerns and perceptions among rural communities, emphasis has been placed on commonalities. The common responses focus attention on a starting place for building educational programs and information services via communication technology. The strongest criterion for judging telecommunications programs is whether the program brings about learning experiences which develop leadership, problem-solving skills, communications skills, and strategic planning.

Collaboration among producers, among rural communities, and between producers and rural communities will be necessary to respond to an otherwise fragmented situation. Institutional collaboration is necessary to develop and deliver programs since resources are limited. Rural collaboration is needed to organize requests and set priorities for program delivery. Rural citizens point to the creation of regional collaboration in the form of a network of rural communities and cooperating agencies: including business, education, government, and industry.

Conceptual Framework of RURALNET. A framework for organizing and thinking about the rural setting can be described as RURALNET, the rural telecommunications network. Access to information can be facilitated by developing, supporting, and fostering the RURALNET and members use of it. Thus, programs on how to use computers, how to teleconference, and how to design programs on the new media foster use of the network. The users, rural citizens, and the providers, institutional faculty, both need such training. Services of the role of coordinator are essential to support the network.

Implications for Practice. The data revealed a major emphasis on rural leadership, the role of coordination, community participation in planning, community economic development, and educational effectiveness related to human capacity building. Technical capacity and institutional collaboration are other categories which must be considered as well. The following recommendations are suggested in order to build human capacity for rural education and information access through telecommunications.

1. Encourage a Variety of Education and Information Technology Appropriate to Local Needs. Set priorities based on community needs assessments and choose technology well suited to the programs.

2. Incorporate Economic Development in Educational Designs Educational programs must be creatively tied to economic development opportunity to be meaningful in the rural context.

3. Develop Local Leadership for Problem Solving Build leadership capacity and basic skills for communication and local problem-solving through telecommunications and other media.

4.Establish Organizing Structures in Rural Areas. Rural communities can facilitate program planning and delivery by working together to organize requests and set priorities for providers of education and information access.

5. Design Programs For Citizens Remaining In The Community Additional programs should focus on training programs for youth who are likely to remain in the community after high school. Specific training programs in basic skills and or vocational skills need to be developed to match local community development needs.

6. Foster Rural Participation in Planning It may be useful to have (1) a leadership structure in the community to help plan programs in line with long term community values and goals, as well as, (2) a structure for gathering the users' input in planning. Local participation in planning programs is recommended. The study suggests methods such as the collaborative RAMP model, focus group interviews, and community self needs assessment. A broad view of long term goals should be developed by each community to give direction to program planning.

7. Build Coordination Capacity Within the Local Community. Establish the professional position of coordinator/encourager within the local community to build leadership capacity for technology within the community. Develop a complete description of the duties and responsibilities of the position. Develop funding sources for the salaries and support of such a position.

8. Provide Training for Coordination Provide professional training and ongoing support services for the role of coordinator in the rural site for telecommunication programs. The training should be designed to earn a credential, certificate or degree to further build professionalism and leadership locally.

9. Provide Assistance With the Change Process Provide outside assistance from educational institutes and information services to develop awareness/adoption of technology, awareness of telecommunications program possibilities and benefits, and demonstrate use of the technology. Assist training local leaders in the change process and how to share the information with the community members. Develop a plan for awareness and a design for demonstration projects. Assess the level of change appropriate to the communities.

10. Establish a Place for Community Education Expand telecommunications delivery at the best site in the community for community education, determined by the natural gathering place, available technical equipment, space, and agency cooperation.

11. Respect Traditional Values Design programs which respond to traditional roles of community and family. Youth and adult programs

coordinated to support each other and respond to community situations are suggested.

12. Provide Careful Attention to Learner Environment Provide planning and resources at the users' site for personal contact with other learners or instructors, participation in designing the learning experience, and support services to personalize the learning experience.

13. Select Delivery Modes Suited to Program Purposes. Select technology appropriate to program purposes and needs. Modes of delivery must be carefully understood when developed for a program.

14. Focus On Congruence Among Rural Community Concerns The focus of program planning should incorporate the commonalities in the study: positive response to telecommunications, role of coordinator/encourager, key role of rural collaboration and representation to providers. Programs should respond to identified concerns such as: demand for computer training, medical training support services, leadership skills, vocational and basic skills, development of local human capital, maintenance of community cohesion and values, and adapting to global changes.

15. Match Providers' Abilities With Rural Community Interests The content and structure of the programs providers can offer must be matched to needs and interests of rural citizens. Programs must be technically possible and economically feasible. Greater information is needed about expertise providers have and programs they can mobilize to offer. Ways of collaborating among providers has to be explored and agreements made, all of which is an interactive process that the researcher did not conduct.

16. Telecommunications Programs Supplement Traditional Programs Telecommunications delivery should not replace traditional educational programs or services. Where traditional programs are possible and feasible, maintain live instruction and personal contact. Receptivity to telecommunications is based on the realization that it might be the only source for information and/or services.

17. Support Creation and Support of RURAL-NET Programs must facilitate learning how to participate in the network as well as facilitate development of the network. Support of the network must include responding to the needs of users, providers, and the network itself. Training in telecommunications technology is needed by rural citizens and institutional faculty.

18. Assist Rural Areas With Technical Infrastructures Technical assistance with utility services and equipment in rural areas must be provided.

Important Questions

The following questions are important to consider by anyone who is planning telecommunications programs for rural communities:

1. What programs should be offered and how, based on central community issues, values, and goals?
2. What is the facility choice by most of the participants for classes or for access to information?
3. What methods of delivery are best suited to the purposes identified?
4. What equipment is available and what additional is needed?
5. What agency strength is present in the community that the rural citizens want to use and how can the agencies work together for the community within their own mission?

6. What leadership structure is available to oversee local programs and to communicate with providers?
7. How will coordination, counseling, marketing, publicizing, registering students, and running programs be provided? Who will fill the role of coordinator? Who will provide funds and support?
8. What vehicle for local participation in planning is desirable to the rural community and to the providers?
9. Who are the key persons involved in decisions about the program and who are the participants? How can both be involved in planning?
10. How can rural citizens become aware of the providers' capacities and use the information for their own planning?
11. How much of the resources needed would the community like to mobilize from within and how much will be required from the outside?
12. How can educational programs be tied to economic development in the community?

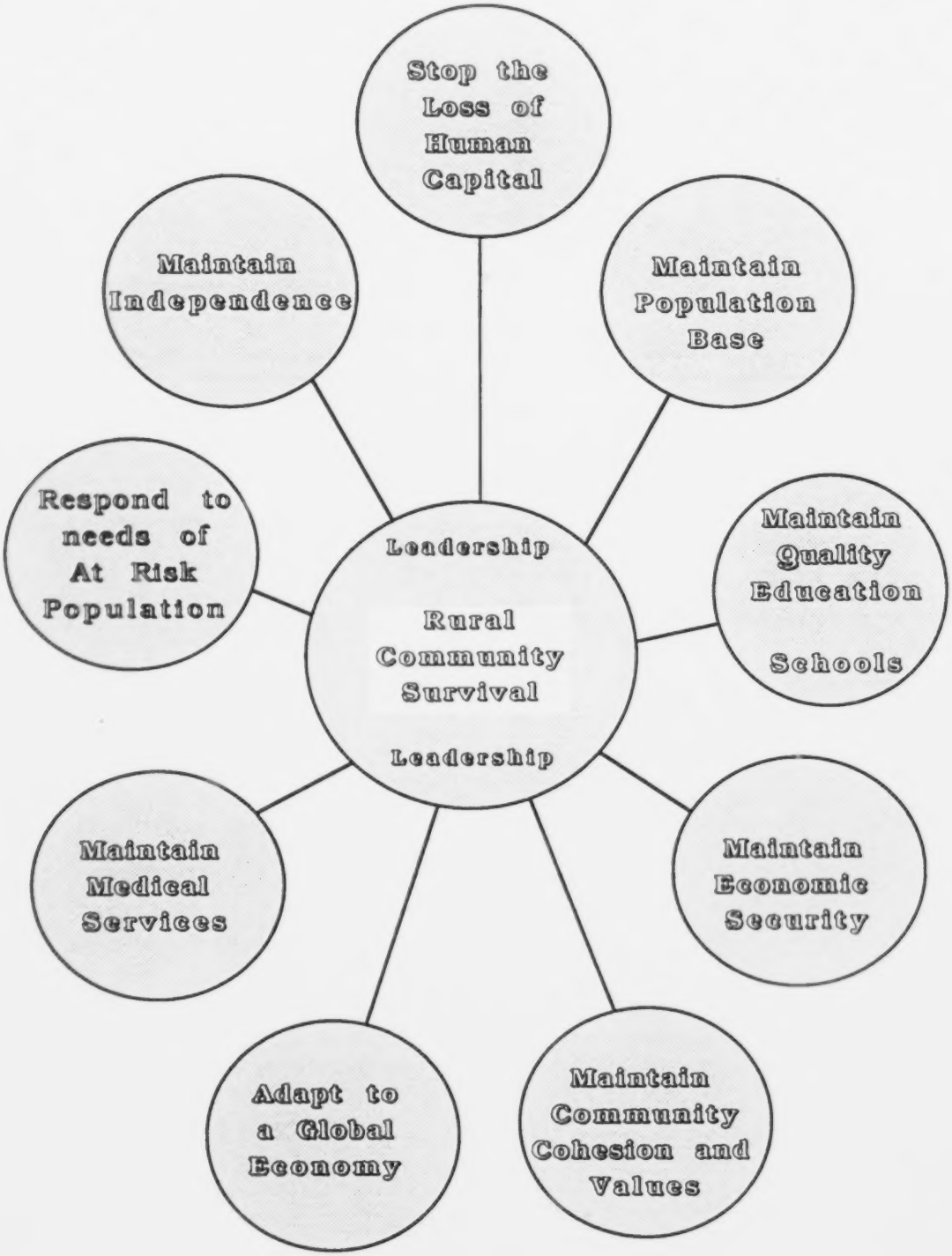


Diagram 1

Rural Community Concerns

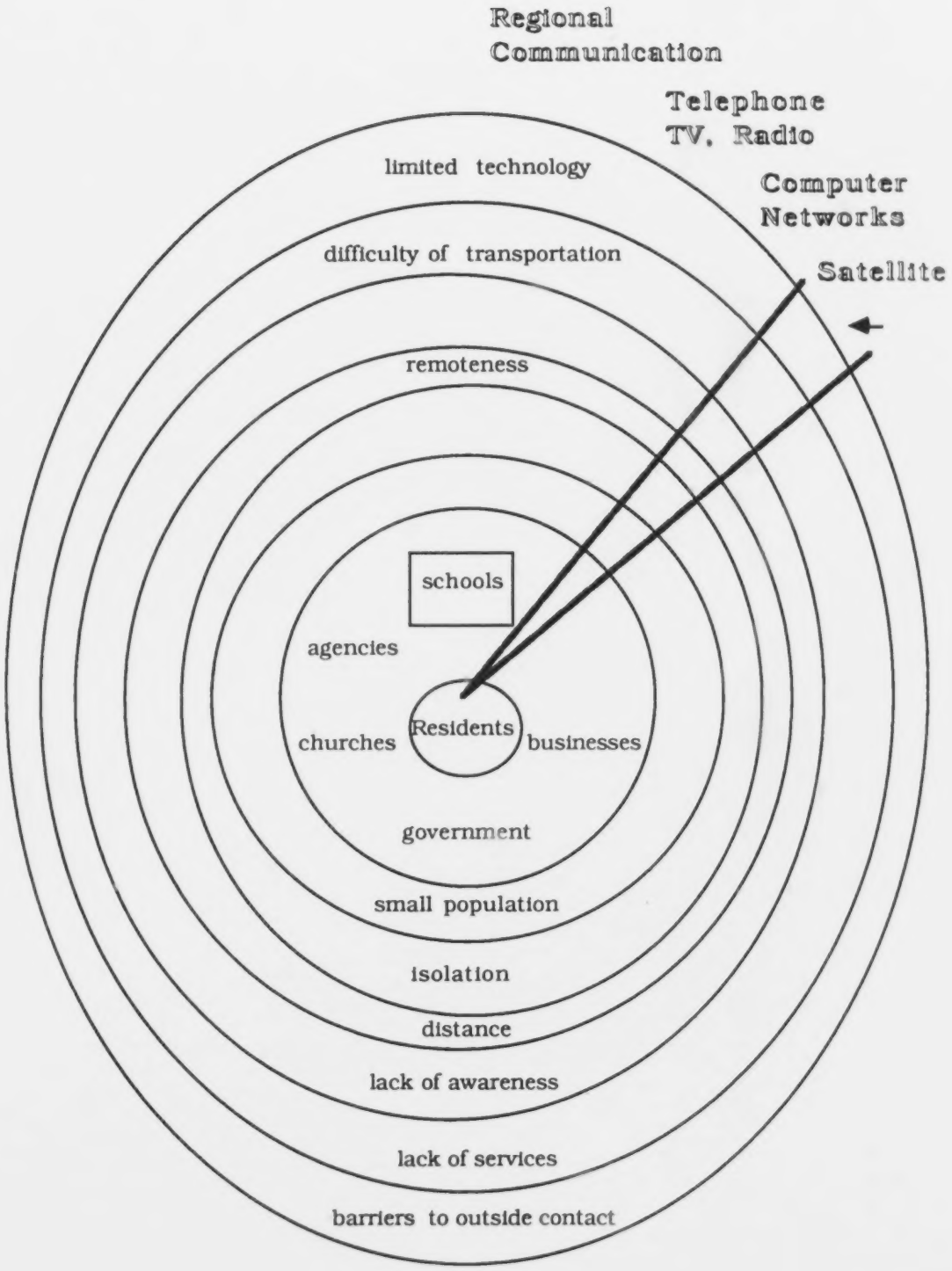
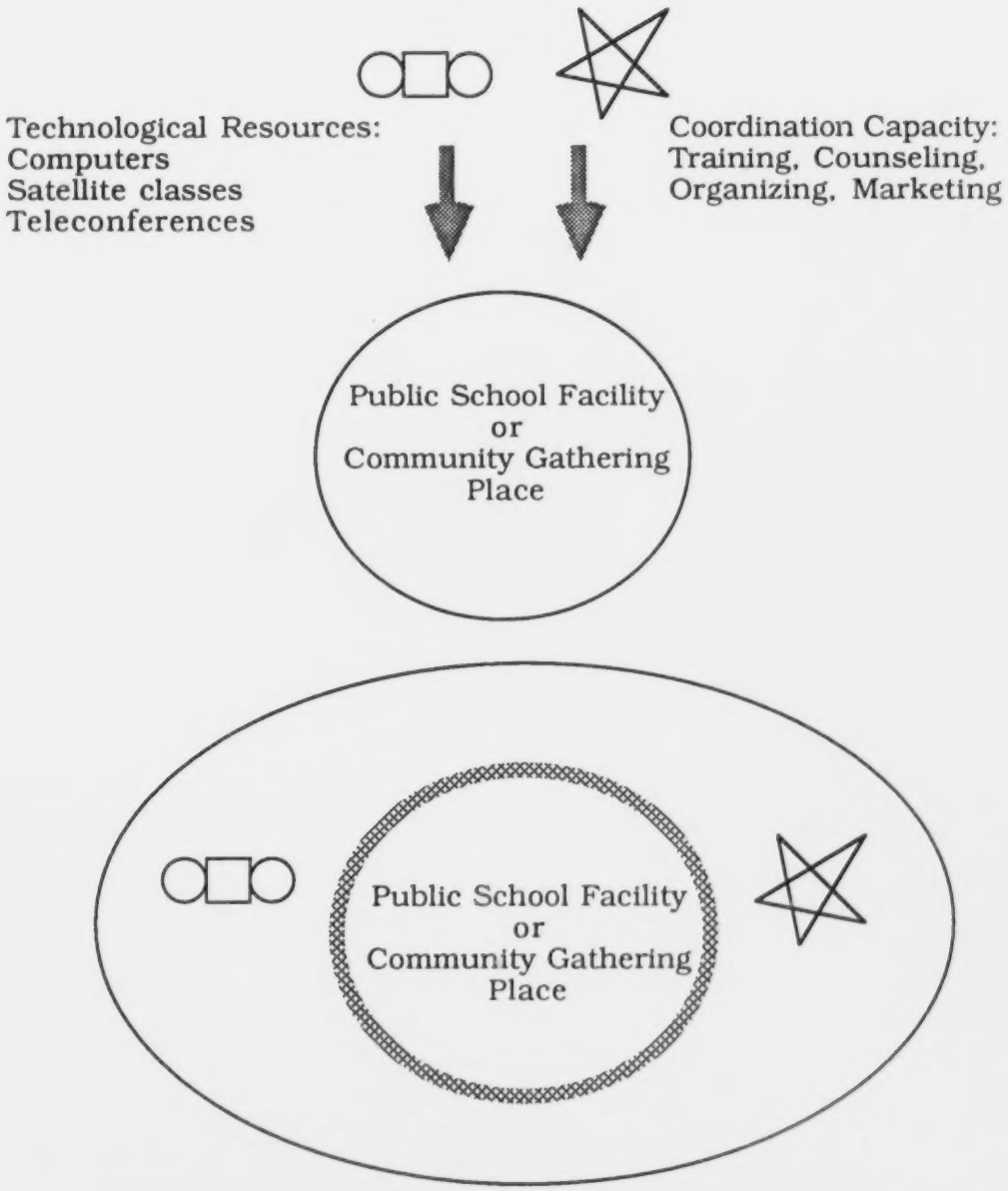


Diagram 2
Telecommunications Bridge to Rural Communities



Center for Community Education

*agencies convene programs via telecom & coordinator
*opportunity for adult continuing education
*assistance for solving community problems
*assist learning growth of at-risk families
*facilitate community and economic development
*improve the quality of life

Diagram 3

Expansion of the Public School for Community Education Opportunity

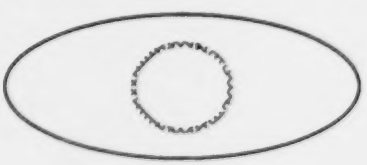
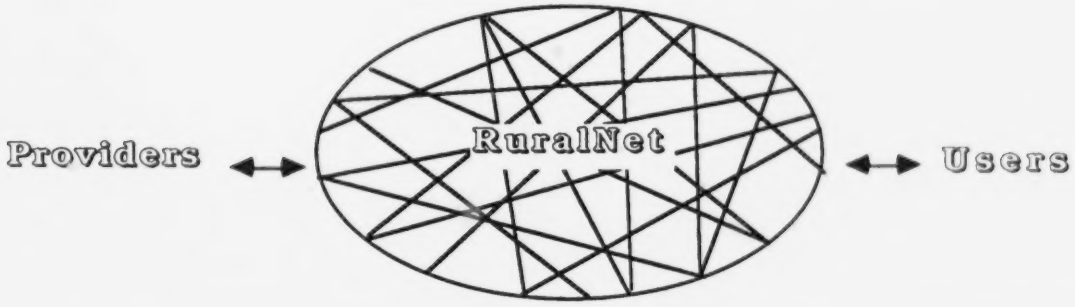
Value Traditional Roles of Community and Family	Positive reception to to telecommunications programs Receptivity to further development
Information Needs: Awareness of Technology Awareness of Providers Library Access Education Needs: Computer Training Basic Skills College Degrees Vocational Education Adult Basic Education Medical Training Small Business Development	Key role of local coordinator Community desire to build coordination capacity from within, but requesting outside assistance for training/organizing
Key role of local participation in planning to foster acceptance/usefulness of programs 	Identification with the public school as a natural gathering place in the community 

Diagram 4

Common Responses in Rural Communities

Providers:
Educational Institution needs:
*ways to continue services
*recognition/funding
*vehicle to send education
*maintain institutional structures
*adapt to change

Users:
Rural Community Needs:
*learner needs
*opportunity
*education
*vehicle to receive training
*maintain community
*respond to change



Network Capabilities:

*expanded ways of connecting what providers have to what users need
*interacting people with knowledge and skill
*shared technology and equipment
*communication
*coordination
*adaptability
*flexibility

Diagram 6

Rural Telecommunications Network

Title. "Access to Information, Communication Technology for Rural Communities: A Qualitative Study of Rural Communities, Northeastern Washington State." Thesis, Master of Adult and Continuing Education, 1989, Washington State University, Pullman.

Author. Lucy Greer Burton, Extended University Services, 106 Van Doren Hall, Washington State University, Pullman, WA 99164-5220.

Purpose. A deeper understanding of rural residents is needed to utilize emerging telecommunications technologies for rural community education and information access. The purpose of this study was to identify a) the community concerns of selected leaders in five rural Eastern Washington communities b) the purposes for which leaders envision using telecommunications and c) the information they believe is needed to deal with community concerns. The data were then organized into a conceptual framework to suggest policy and program innovations for educational institutions and other agencies serving rural areas and to guide further study.

Methodology. In depth on-site interviews were conducted with thirty four leaders in five selected rural Eastern Washington communities which had access to telecommunications education and information systems. In addition, interviews were conducted with fifteen Eastern Washington educators with expertise in rural development and telecommunications systems. Data were collected and analyzed using the constant comparative method. Trustworthiness of data was established by using peer debriefing, triangulation, member checking, maintaining an audit trail and other qualitative analysis techniques.

Theoretical Framework. Qualitative analysis of the data from interviews, observations, and field documents verify the emergence of a new social world among and within rural communities, which can be called the "Rural Telecommunications Network Environment". This perspective illuminates the necessity of a functional network with technical infrastructure and human capacity to utilize technology as requisite to education and information access.

Results and Conclusions. Major findings included the following:

1. Community leaders' core concern was literally the survival of their communities.
2. Successful use of telecommunications in rural communities depends on understanding and developing a "rural telecommunications network" (later called RURALNET) which meets the needs of users, providers, and the network itself.
3. Several factors are critical to the success of a RURALNET including the need for policy which takes into account:
   a. respect of traditional community and family values
   b. capacity for local and institutional coordination
   c. local participation in planning
   d. designation of a "natural gathering place" in the community
   e. human capacity building to allow rural citizens access to, and planning of RURALNET
   f. collaboration among providers of telecommunications programs/services.
   g. coordination between providers and citizens.
4. In general, there is a positive reception to expansion of telecommunications programs/services to rural areas and optimism that it can help solve some of the problems faced by rural communities.

END

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